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ABSTRACT

It is the contention of this paper that libraries are accountable and that library performance can be measured under the accountability concept. Accountability includes three aspects: (1) basic principles, (2) performance objectives and (3) educational engineering. In order to explore this position, the following topics are dealt with in this paper: (1) What are the basic principles of educational accountability? (2) How do these principles apply to library accountability? (3) What are performance objectives in the educational context? (4) How do performance objectives apply to library programs? (5) How does Lessinger's concept of educational engineering relate to library management? (6) Example of the use of a specific library performance objective and (7) Conclusion. Library accountability is a challenge which must be faced if libraries are to continue to receive public support. With effective planning and management, it is now possible to measure some aspects of library performance in terms of direct benefit as perceived by the individual user. (Author/NH)

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LIBRARY ACCOUNTABILITY

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LIBRARY ACCOUNTABILITY

Paradoxically in today's society, one constant, unchanging truth is that change itself is constant. Many pressures have combined to create this fluid state of affairs--the technology revolution, the knowledge and population explosions, the increasing threat to our environment, the shrinking of world boundaries due to advances in mass media and rapid transportation and communication, the mobility of our population, and the changing occupational patterns of our citizens.

As traditional, bureaucratic institutions have failed to respond to societal change, many symptoms of individual and group frustration have emerged. Racial and minority unrest, student demonstrations, the generation gap, the new morality, unemployment because of job displacement, burgeoning welfare rolls, higher crime rates, and increased incidences of violence are but a few indicators of an unhealthy social condition. As tensions increase, so do costs.[1]

At this point the economic situation enters the picture. Inflation is eroding the buying power of the dollar, thus nullifying wage increases. Taxes are taking a progressively bigger bite from salaries. The general public is beginning to ask where the money is going and how well it is being spent. Legislators, both state and

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[1]Clifford L. Dochterman and Barron B. Beshoar. Directions to Better Education: Suggestions for Improving Education in a Changing Society. Based on the publication Emerging State Responsibilities for Education. (Denver: Improving State Leadership in Education, 1970) p.4.

federal, are being forced by the taxpayer revolt[2] to insist on better accounting for the use of public funds.

With the passage of the new Library Services and Construction Act Amendments of 1970, the age of library accountability dawned, just as it did some few years ago for the field of public education. The following quotations from the new law illustrate this point:

> Long-range program means the comprehensive five-year program which identifies a State's library needs and sets forth the activities to be taken toward meeting the identified needs.[3]
>
> Such long-range programs shall . . . specify the State's policies, criteria, priorities, and procedures . . .[4]
>
> . . . the State agency administering the plan will make such reports . . . as the Commissioner may reasonably require to . . . determine the extent to which funds . . . have been effective in carrying out its purposes, including reports of evaluations made under the State plans.[5]
>
> . . . be annually reviewed and revised in accordance with changing needs . . . and the results of the evaluation and surveys of the State library administrative agency.[6]
>
> . . . set forth policies and procedures (A) for the periodic evaluation of the effectiveness of programs and projects supported under this Act, and (B) for appropriate dissemination of the results of such evaluations.[7]

It would, therefore, appear from the inferences in the passages stated above that the question of whether or not libraries can be held accountable is no longer debatable. The law implies that libraries will

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[2]Edward J. Fox and William B. Levenson, "In Defense of the 'Harmful Monopoly'" Phi Delta Kappan 52:131-35, November, 1969. p. 131.

[3]U.S. Congress. House. A Bill to Amend the Library Services and and Construction Act. 91st Congress, 2nd Session, December 3, 1970. (Washington: Government Printing Office, 1970) p.6.

[4]Ibid., p.6. [5]Ibid., p. 12. [6]Ibid., p.13. [7]Ibid., pp. 13-14.

be held accountable and so, the question becomes one of methods to accomplish this goal.

It is the contention of this paper that libraries are accountable and that library performance can be measured under the accountability concept. Accountability includes three aspects: 1) basic principles; 2) performance objectives; and 3) educational engineering. In order to explore this position, the following topics will be dealt with in this paper:

I. What are the basic principles of educational accountability?

II. How do these principles apply to library accountability?

III. What are performance objectives in the educational context?

IV. How do performance objectives apply to library programs?

V. How does Lessinger's concept of educational engineering relate to library management?

VI. Example of the use of a specific library performance objective.

VII. Conclusion.

What Are the Basic Principles of Educational Accountability?

Leon Lessinger, former USOE Associate Commissioner for Elementary and Secondary Education, is the originator of the concept of accountability. According to Lessinger, it is necessary to recognize three basic rights in modern education: 1) each child has a right to be taught what he needs to know in order to take a productive, rewarding part in our society; 2) the taxpayer and his elected representative have a right to know what educational results are produced by a given expenditure; and 3) schools have a right to draw on talent, enterprise and technology from all sectors of society instead of being restricted to educators'

overburdened resources.[8] The goal of educational accountability is the guaranteed acquisition of basic skills by all children. The working principle involved is the use of the most economical means to achieve this end. Lessinger states that more money in itself is seldom sufficient for achieving educational reform.[9]

Bhaerman, citing all three basic rights, states that the term has become an "in" term used in many ways, but primarily to mean the setting of goals and objectives. Within this framework, the teacher becomes accountable to his clients--the students and parents--for the outcomes of his performance.[10]

Don Davies of USOE expresses the hope that the term will be more than an "in" word, that it will be an operative concept which

> comes to grips with a notion too many schoolmen have too long neglected; the notion that schools and colleges should shoulder the responsibility for the learning successes or failures of their pupils.[11]

Davies also recognizes the interpretation of accountability to the taxpayers and accountability to the Congress and to state and local legislative bodies. The main emphasis, however, is on that type of accountability which holds teachers, aides, principals, superintendents and school board members responsible for the educational achievements

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[8]Leon M. Lessinger. Every Kid a Winner: Accountability in Education (New York: Simon and Schuster, 1970) p.4.

[9]Ibid., pp. 8-14

[10]Bob Bhaerman. A Paradigm for Accountability. (Washington, D.C.: American Federation of Teachers, Department of Research, 1970) p.1.

[11]Don Davies, "The Relevance of Accountability," American Education 6:28-31, March, 1970. p.28.

of all their clients--those who enter school well-prepared to learn as well as those with little background for learning.[12]

How Do These Principles Apply to Library Accountability?

Many librarians, because of their service-orientation, have long been aware of the need for accountability, although this need has not always been stated in such a precise term. Beasley implied the concept of accountability when he stated that the development of

> library service in terms of intuition as we have been doing is an anachronism . . . Political decision-makers, among others, are not accepting this approach in other areas of social service, and there is no reason to believe they will make an exception for library programs.[13]

Bradshaw states that the public library is successful in direct ratio to its use by people and that public libraries in the next decade will be asked to give increased accounts of their plans and programs to the people who pay the bills.[14] Palmer addressed himself directly to the concept of accountability with the following statement:

> . . . let me cite one of the strongest reasons for accurate, comprehensive, meaningful, and timely library statistics. This is the factor of accountability. More and more tax funds from local, state and federal sources are being invested in this nation's libraries. If we are to continue to rely upon these public revenues for our support . . . we must be able to illustrate what public good has accrued from the investment.[15]

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[12] Ibid., p. 11.

[13] Kenneth E. Beasley, A Theoretical Framework for Public Library Measurement. In Research Methods in Librarianship: Measurement and Evaluation, edited by Herbert Goldhor. (Champaign: University of Illinois--Graduate School of Library Science, 1968). p. 12.

[14] "Kaleidoscopic View of Library Research," Wilson Library Bulletin 41:896-949, May, 1967. pp. 930-1.

[15] David C. Palmer, "The Statistics Handbook," National Conference on Library Statistics (Chicago: American Library Association, 1967) p.47.

One final statement concerning library accountability is the following one by F. William Summers, former Florida State Librarian:

> The federal government, like any good investor, expects a return on the investment made and anticipates also that the return will grow with increases in the investment. Naturally, the emphasis is on results. As the federal government shifts more and more into the planning programming and budgeting system (PPBS), this type of pressure will no doubt increase. To date, the states have been free to set their own goals and to evaluate progress toward them in their own terms, but this situation cannot be expected to continue, nor perhaps should it.[16]

Let us now apply the basic principles of Lessinger's theory to libraries. Lessinger states three basic rights. The first one is that each child has the right to be taught what he needs to know in order to take a productive, rewarding part in our society. For purposes of library accountability this statement might be rephrased thus: under the American system of government, each citizen has the right to know and, therefore, the right to read and to learn in order to take a productive, rewarding part in our society.

Lessinger's second principle states that the taxpayer and his elected representative have a right to know what results are produced by a given expenditure. Whether or not we, as librarians, agree with this statement is not debatable. The current economic situation has created pressures on the pocketbooks of the general public. Like it or not, the public is beginning to demand an accounting and so, libraries are accountable to the taxpayer and his elected representative. Within

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[16]F. William Summers, "Frustration and Tension," Wilson Library Bulletin 42:821-3, April, 1968. p. 822.

the governmental framework, state library agencies are held accountable to the federal government. This, in turn, then implies individual library accountability to both the state and federal levels.

Lessinger's third precept is that schools have the right to draw on talent, enterprise and technology from all sectors of society instead of being restricted to educators' overburdened resources. This basic right is one which libraries have long exercised. Surveys by Nelson Associates, shared computer time with banks and industry, use of consultants from other disciplines--these are only a few examples of common practices within the library field.

The goal of education, according to Lessinger, is the guaranteed acquisition of basic skills by all children. The latest Carnegie Commission report on higher education points out the trend toward continuing education as a lifelong process brought about by the knowledge and technology explosions. So many changes are occurring so rapidly today that adults are being forced to continue their learning just to keep abreast of the latest developments.[17] The Designing Education for the Future project points out that people will need to retrain themselves two to three times during their life span for new jobs as older job classifications become obsolete and are eliminated.[18] Much of this retraining will be in the formal education setting, but a great deal of it will occur on a voluntary, self-

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[17]Carnegie Commission on Higher Education. Less Time, More Options: Education Beyond the High School (New York: McGraw Hill Book Company, 1971). pp. 7-8.

[18]Richard L. Shetler, "Major Problems of Society in 1980," Prospective Changes in Society by 1980 (Denver: Designing Education for the Future, 1966) pp. 265-68.

motivational basis. The growing affluence of our society with its shorter work week (e.g. the proposed new 4-day week) and earlier retirement, coupled with increased life span, are all combining to provide increasing amounts of leisure time for American citizens. Regardless of the individual's purpose in using the library, the library goal for accountability can be stated as the guaranteed acquisition of information by all consumers based on their perceived needs and life goals.

Lessinger's working principle--use of the most economical means to achieve this goal--is equally applicable to libraries. Some of the implications involved here include; better utilization of professional manpower for professional duties; more efficient working routines; better space utilization to provide the most efficient working centers for related activities within each library; use of automation for manual procedures to free librarians for more public service work and to reduce time lags in getting information to the patron; more effective program planning and administration based on better management information derived from research and evaluation procedures; and sharing of resources --both human and nonhuman.

What are Performance Objectives in the Educational Context?

The American educational commitment has, in the past, been stated in terms of resources or inputs such as teachers, books, space and equipment. English and Zaharis state:

> Efforts by school reformers to shift the basis of measuring school effectiveness from input (pupil-teacher ratio, dollars spent per child, etc.) to output (student behaviors) are without much precedence in education. Schools have historically been teacher-oriented institutions with primary loyalties centered on colleagues

and institutional norms rather than clients.[19]

Accountability holds the schools responsible for results in terms of student learning rather than solely in the institutional use of resources.[20] Congress and state legislators have poured billions of dollars into education in recent years, and yet they have seen little or no improvement. Lessinger states that much of this waste might be avoided if proposals "were based upon specified performance objectives and if it were clearly stated how and when evaluators might know these objectives had been met."[21]

According to Lessinger, these objectives should be stated as measurable outcomes, not hopeful generalities. A good objective will include:' 1) what a student is expected to do (performer and performance); 2) the circumstances under which he should be able to do it (conditions); and 3) the degree of accuracy expected (criteria for success). For example:

> Given three days and the resources of the library, the student completing this program will then be able to write a 300 to 500 word set of specifications for constructing a model airplane that any woodshop student could follow and build to specifications.[22]

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[19]Fenwick English and James Zaharis, "Are Accountability and Governance Compatible?" Phi Delta Kappan 52:374-5, February, 1971. p. 374.

[20]Leon Lessinger, "Accountability in Education," NCSPS News, February, 1970. p. 1.

[21]Leon M. Lessinger and Dwight H. Allen, "Performance Proposals for Educational Funding: A New Approach to Federal Resource Allocation," Phi Delta Kappan 51:136-7, December, 1969. p. 136.

[22]Ibid., pp. 136-7.

This idea is new to education but not to other areas. It has been applied with great success by both industry and the military for years. The performance criteria approach: 1) promises greater economy in allocation of education resources; 2) provides basis for cost/benefit relationships; and 3) uses cost/benefit indexes to help determine allocation of funds among the many competing educational programs. When money and resources are focused on arriving at observable, measurable outcomes, the resources required to bring a given student to a specified level of performance can be identified and applied.[23]

English and Zaharis state that the most valuable functions of the performance criteria approach are: 1) it forces professionals to examine the quality of their skills and services; 2) it questions the competence base of the profession since most preparation is training in housekeeping skills with little attention to specific pupil behaviors; and 3) it forces the profession to consider whether or not the profession can continue to be indifferent to pupil growth.[24]

Educators, at first, were convinced that educational outcomes were not measurable. Now catalogs of learner objectives are available from various sources, e.g., the Instructional Objectives Exchange at the Center for the Study of Evaluation, University of California at Los Angeles. A sound filmstrip presentation with individual work sheets, which provides instruction in writing objectives at the various levels (including program and staff), has been developed by Insgroup, Inc. of Long Beach, California. English and Zaharis, while admitting that many

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[23]Ibid., pp. 136-7.

[24]English and Zaharis, Op. cit., p. 375.

intangibles in the field of education still are not measurable, believe that it is better to measure what can be measured using "whatever crude measures are available, adopting refined methods as they are developed."[25]

How Do Performance Objectives Apply to Library Programs?

Once again, some librarians have long been aware of the need to measure outputs rather than inputs. Robert D. Leigh pointed out the inevitable limitations of standards because such statements do not and cannot measure the library's success in achieving its objectives in terms of direct benefit to the individual user. He called for the study of means to measure the influence of the library on the life and culture of individuals, communities, nations and the world.[26] Ralph Blasingame asked if we are measuring the things which are the substance of that with which we deal.[27] Ennis states that in measuring library performance we do not have a one-dimensional yardstick such as a balance sheet or profit and loss statement. Routinely-collected statistics on such activities as circulation and holdings leave much to be desired. The profession must make a real effort to develop new instruments explicitly related to the goals of libraries and to develop a multi-dimensional set of quantified or semi-quantified indicators. Danton also cites the need for research into the effect upon individuals and society

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[25] Ibid., p. 375.

[26] Robert D. Leigh. Public Library Service: a Guide to Evaluation with Minimum Standards (Chicago: American Library Association, 1956) p. XXI.

[27] Ralph Blasingame. In National Conference on Library Statistics: Proceedings (Chicago: American Library Association, 1967) p.87.

of different kinds of library services and resources.[28] Orr states that the library is a "black box" to the user who is not concerned with what goes on inside the box, in other words, how the library operates. The user is concerned only with outputs - what services the library can provide him and how well the library meets his needs. Effectiveness can be assessed only by looking at the library's outputs.[29]

Accountability holds libraries responsible for results achieved in terms of meeting the individual's informational needs based on his perceived needs and life goals, rather than solely in the institutional use of resources. Much waste can be avoided by using performance objectives which, according to Lessinger, would consist of the following elements: 1) what a user is expected to do (performer and performance); 2) the circumstances under which he should be able to do it (conditions); and 3) the degree of accuracy expected (criteria for success). For example:

> Given an efficiently-organized card catalog and the services of a trained reference staff, the user, in 80% of his trials, will be able to locate materials and/or information necessary to meet his needs with little assistance, with expenditure of less than 1/2 hour's time on his part and in time to meet his personal deadline for such information.

Just as librarianship can expect to reap the benefits of this new approach to programming by performance objectives so, too, it can expect some resistance and some problems. Perhaps the most crucial

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[28]"Kaleidoscopic View of Library Research," Op. cit., p. 900-15.

[29]Richard H. Orr, "Development of Methodologic Tools for Planning and Managing Library Services," Medical Library Association Bulletin 56:235-67, July, 1968. p. 237.

question to be answered is the one posed by Lessinger's premise of direct benefit to the individual user.

Armstrong remarks that the "borrowing of the book is not the real, ultimate product of the library. The real product is the house built by the Indian, the improved sermons of the minister, or the stimulated children taught by the rural school teacher."[30] He is, in effect, saying that library services, unlike education, are a means to an end rather than an end in themselves and may be difficult, if not impossible, to measure.

On the other hand, Campbell states that there is no aspect of library services that cannot be quantified, for which mathematical models and simulations cannot be constructed.[31] Beasley contends that "much of library service can be described accurately in statistical terms . . . the only limitation is the state of the statistical art, and there are many areas equally as complicated as library service or more so, where statistical analysis has been proved not only useful but almost essential."[32]

In a recent state-of-the-art review of library research, the statements of the various contributors can be condensed to five general statements:

1) Many librarians do not know what research and evaluation are.

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[30]Charles M. Armstrong, "Measurement and Evaluation of the Public Library." In Research Methods in Librarianship: Measurement and Evaluation, edited by Herbert Goldhor. (Champaign: University of Illinois Graduate School of Library Science, 1968) p. 15.

[31]Beasley, Op. cit., p. 3.

[32]"Kaleidoscopic View of Library Research," Wilson Library Bulletin 41:896-949, May, 1967. p. 911.

2) Librarians have not fully utilized available research knowledge.
3) Professional commitment to library research and evaluation is lacking.
4) Many librarians tend to be activity-oriented rather than goal-oriented.
5) Library research is noncumulative because librarians fail to build on previous research.[33]

In the same article, however, a slightly more optimistic viewpoint is expressed by Drennan, Jackson, Gitler, and Goldstein indicating that library research is beginning to develop into a mature part of the profession.[34]

Like education, however, librarianship can measure many functions in terms of performance objectives. Realizing there are still the intangibles which cannot be measured, we would be well advised to follow the course suggested by English and Zaharis. We should begin by measuring what can be measured and adopt refined methodologies as research makes these available. Perhaps we, too, shall soon have catalogs of performance objectives. Such was the experience of the education field.

How Does Lessinger's Concept of Educational Engineering Relate to Library Management?

According to Lessinger, what the schools need is a method or process called educational engineering, where we define exactly what we want (performance objectives) and then bring together resources and technology so as to insure those results. Educational engineering is a technique for managing change.[35] Lessinger further states:

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[33]Ibid., pp. 896-949. [34]Ibid., pp. 896-949.

[35]Lessinger, Every Kid a Winner, pp. 8-14.

> There is some question whether such funds are flowing into the most appropriate channels, however, and there is occasional evidence that a good part of it is drained off in poorly conceived and improperly managed programs not conducive to sought-for results.[36]

The key phrases in the above paragraph are: performance objectives (which are stated in terms of student behaviors); poorly conceived; and improperly managed. These three phrases provide insight into Lessinger's definition of educational engineering. Poorly conceived programs implies the need for systematic planning based on identified student needs. To achieve the desired results stated in the performance objectives, some pattern for a systematic procedure is necessary.

There are four basic procedural models in use today: 1) Input-Output model; 2) Problem-Solving model; 3) Discrepancy model; and 4) Decision-Making model. Each of these models shows the sequential relationships within an institution of the four basic institutional functions - planning, implementation, evaluation or monitoring, and program modification. As such, then, these models represent a procedure or method for reaching predetermined goals. Both the setting of goals and the selection of a procedure to meet these goals imply a futuristic orientation - a basic characteristic of the planning process.

As one examines the following examples of these four basic models, one begins to notice a proliferation of terms. In spite of the semantics involved, most terms refer to the four basic functions or to varying levels within each of these functions. Another characteristic of planning becomes apparent - the need to generate alternative plans before choosing the one best suited to a specific situation. Finally, it must

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[36]Lessinger and Allen, Op. cit., p. 136.

be pointed out that the planning process includes preplanned evaluation criteria and methodology so that the evaluation process actually functions throughout the procedure.

Lessinger's concern with inputs and outputs is basically a business and industry systems model. Figure 1 on page 17 by Paul J. Gordon, Professor of Management at the Indiana University Graduate School of Business, is one example of the Input-Output type of systems model.[37] Another type of systems model is the problem-solving model as represented by Figure 2 on page 18.[38] This model is similar to the 6-step Corrigan-Kaufman model cited by Alkin and Woolley.[39] Each square within this model could be treated separately so that, for example, the planning step alone could be developed into a complex diagram.

A third type of systems model is one called a discrepancy systems model. Ralph Tyler defines a need as the difference (discrepancy) between the present condition of the learner and acceptable norms.[40] Others define need as the difference between what is (current status) and what ought to be (desired status). In this sense, then, Figure 3 on page 19, which is a paradigm of Havelock's model for managing change, is a

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[37]Paul J. Gordon, "All Very Well in Practice! But Does It Work in Theory?" Wilson Library Bulletin 42:676-85, March, 1968. p. 681.

[38]Dochterman, Op. cit., pp. 13-14.

[39]Marvin C. Alkin and Dale C. Woolley. A Model for Educational Evaluation. (Los Angeles: Center for the Study of Evaluation, University of California, 1969). p. 9.

[40]Ralph W. Tyler. Basic Principles of Curriculum and Instruction (Chicago: The University of Chicago Press, 1949). pp. 7-8.

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Figure 1.

Input-Output Systems Model
Gordon

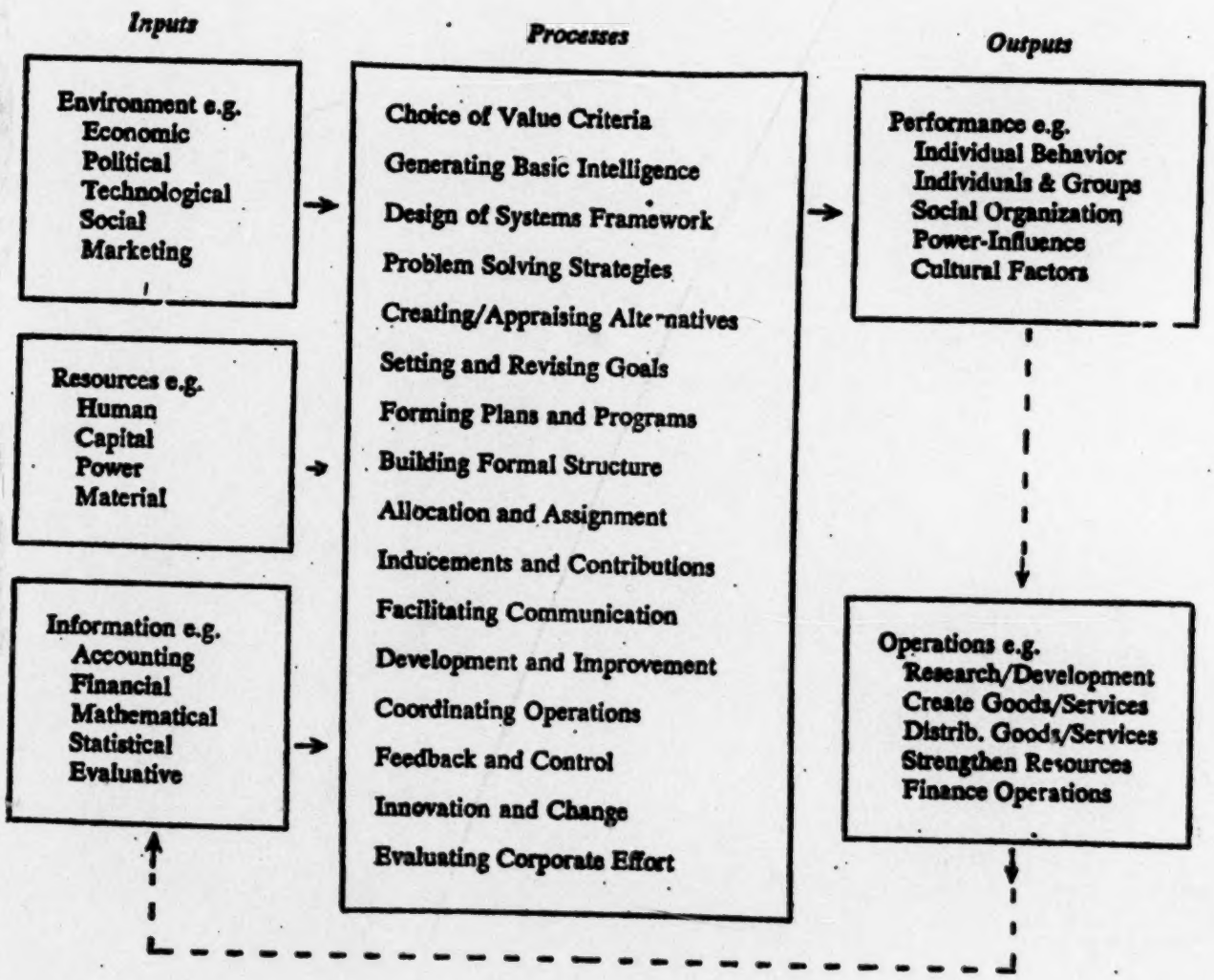


Figure 2.

Problem-Solving Systems Model
Dochterman

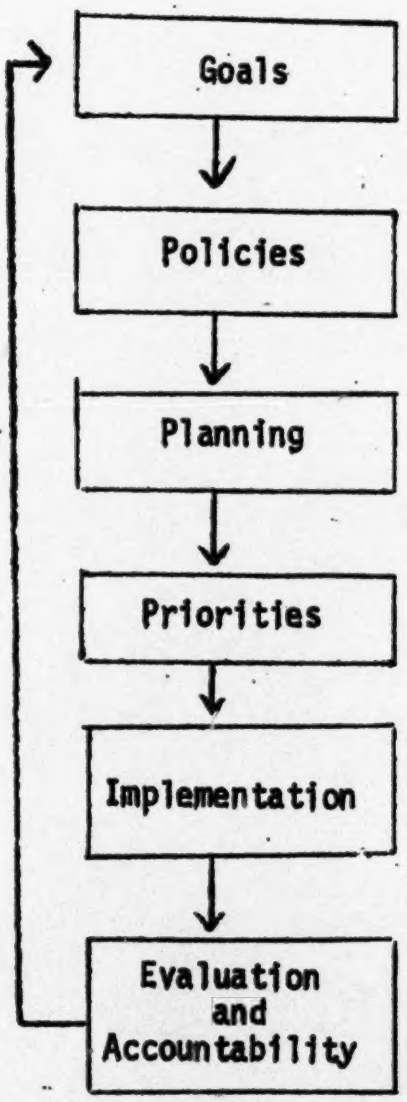
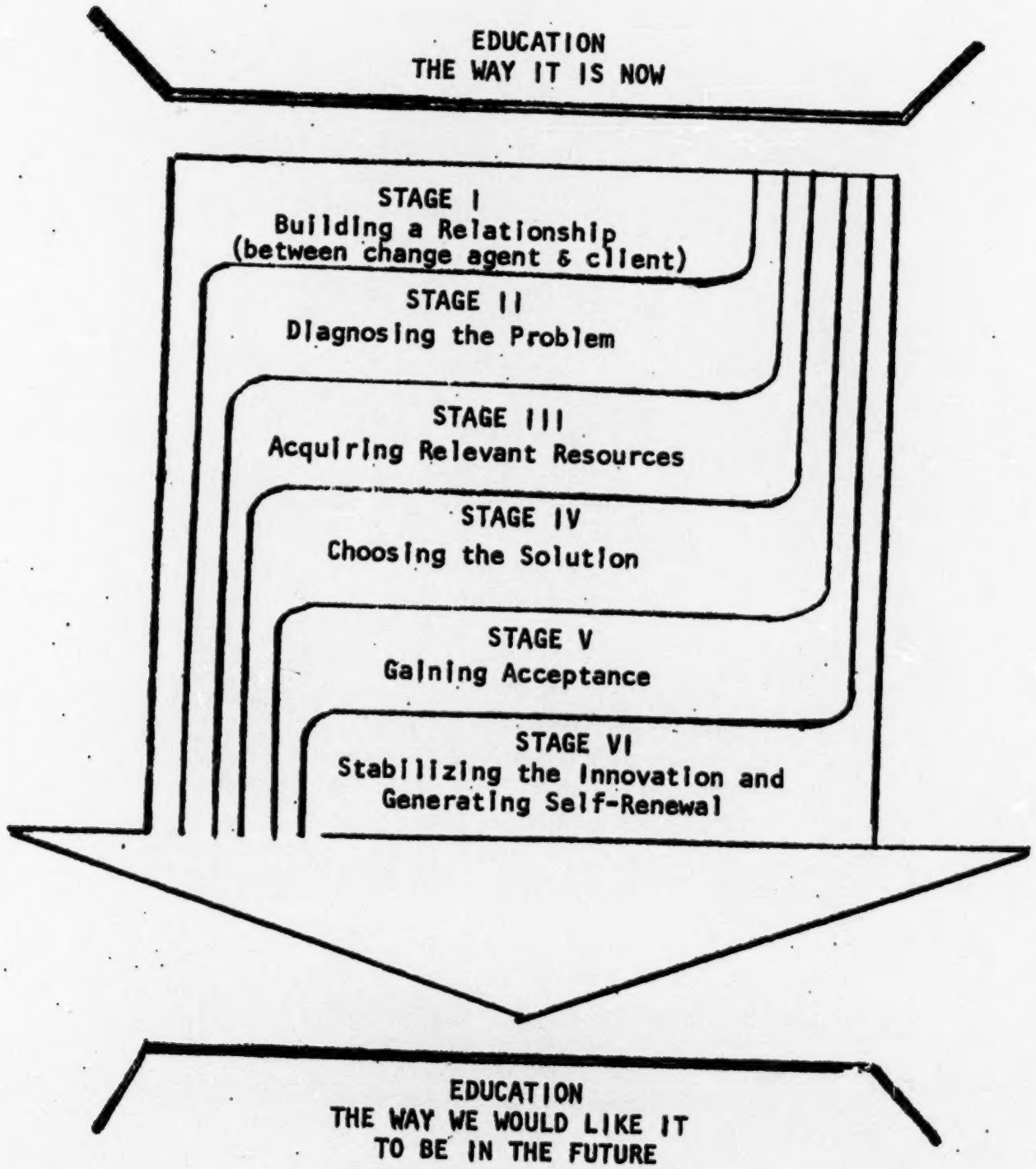


Figure 3.

Discrepancy Systems Model
Havelock



discrepancy systems model.[41] A fourth common type of systems model is the decision-making one. Figure 4 on page 21 is the decision-making model of Alkin and Woolley.[42]

An organizational plan may consist of several, interrelated programs stated in performance objectives and developed according to the procedural model adopted by the chief administrator. Such a plan may well remain on paper unless appropriate management techniques are used to insure the effective operation of the procedural model.

Over the past several years a new management concept called Management-by-Objectives (MBO) has been evolved. According to Odiorne, the Management-by-Objectives system is an extension of the Planning Programming Budgeting System (PPBS) into a comprehensive management system - from program and fiscal control to include the management of the human element. MBO establishes the individual's accountability for performance of tasks necessary to achieve the overall organizational goals.[43]

The ingredients of this system come from three separate sources - industry, federal government and evolution of budget reform. In 1915 the DuPont Corporation, after investing in General Motors, introduced into General Motors concepts relating to the setting of objectives, forecasting, planning for the future and developing standards and output measures.[44]

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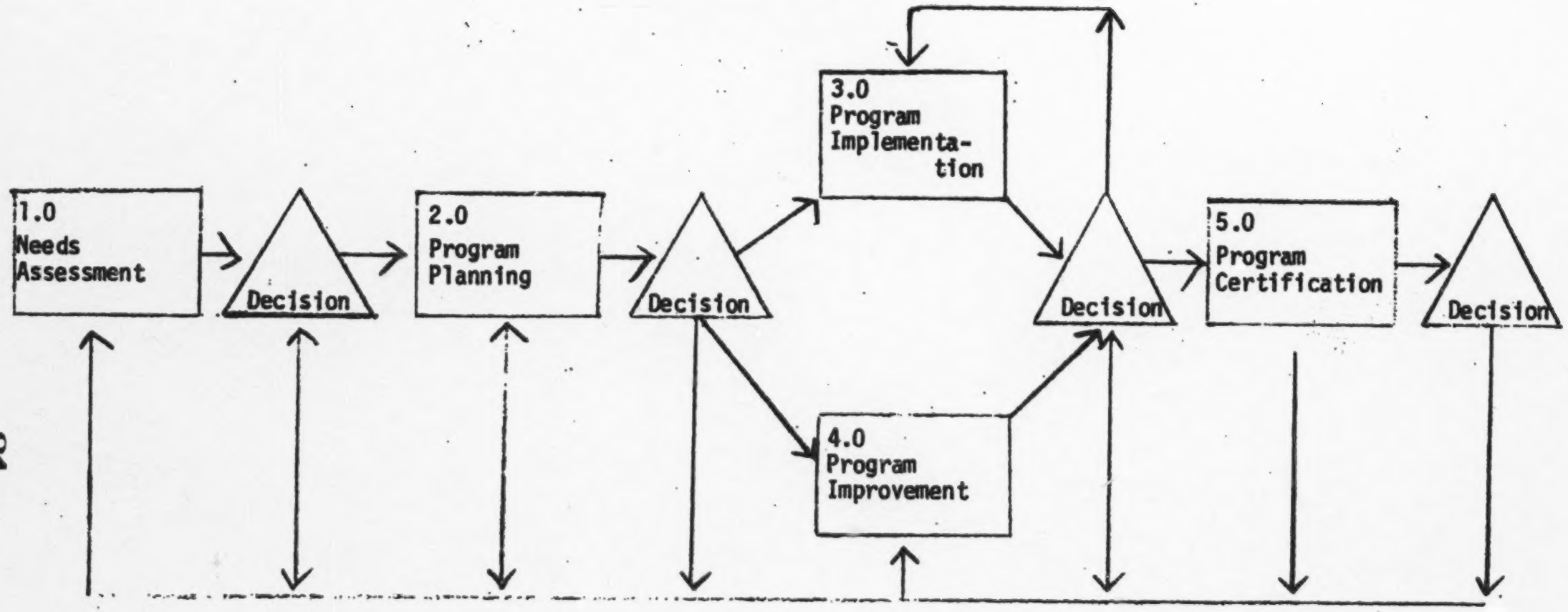
[41]Ronald G. Havelock. A Guide to Innovation in Education.(Ann Arbor: Institute for Social Research, University of Michigan, 1970). p.13.

[42]Alkin and Woolley, Op. cit. p. 7.

[43]Seminar Lecture by Dr. George Odiorne, Management-by-Objectives, at Denver (Colorado) Radisson Hotel, July 15-17, 1970.

[44]G. A. Chambers, "PPBS - New Challenge and Opportunities for the Principal in Financial Planning and Management," North Central Association Quarterly 42:301-6, Spring, 1968. p. 302.

Figure 4.
Decision-Making Systems Model
Alkins - Woolley



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In the meantime Tex Thornton of Litton Industries developed a cadre of young managers by working with them individually on a "coaching" basis. Included in this group were Hansbarger, who later converted a nearly bankrupt Boise-Payette Lumber Company into a going concern seemingly almost overnight; Ernest Breech and R. J. Miller who joined the Ford Company; and McNamara, who left Ford to become Secretary of the Department of Defense. As these young men went their separate ways, they took with them the training and skills instilled by Thornton. They became known as the Litton Industry dropouts.[45]

In 1942 the War Production Board's Control Materials Plan identified major goals, established program objectives, identified program elements projected over a period of time, and examined and analyzed alternative plans. Then in 1949, the Hoover Commission recommended the performance budget with its emphasis on efficiency in work performance. The performance budget, as opposed to the older line-item type budget, called for cost estimates by program stated in performance objectives. This new approach was oriented toward management and cost-effectiveness.[46]

The Department of Defense, under McNamara, introduced the third stage of budget reform - long-range planning. This was initially a fiscal system designed to control the acquisition of hardware for the Department and did not originally include the management function. At this point, the full PPBS system had been developed, but no provision was included to manage the people responsible for various job assignments. This is the

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[45]Odiorne, Op cit. [46]Chambers, Op. cit., p. 302.

element contributed by MBO making it a complete management system.[47]

Maher and Piersol present a simplified definition of MBO. It is a method of 2-way communication between a subordinate and his supervisor aimed at establishing mutually understandable and acceptable job performance standards. These standards or goals are worked out through discussion and negotiation leading to a mutual agreement on the criteria to be used for measuring the subordinate's work performance. The direct involvement of the subordinate in setting his own work standards, within the framework of the organizational goals, leads to greater clarity concerning job expectations, increased commitment to organizational goals and higher productivity due to knowing how he is to be evaluated. This process also helps to eliminate a significant amount of job frustration and leads to better employee morale.[48]

Odiorne observes that organizations which are activity-oriented, rather than goal-oriented, tend to exhibit much disagreement on organizational goals, less teamwork, more bickering over minor tasks and routines, and a low morale level among the employees.[49] A study by Maher and Piersol found a high correlation between overall job satisfaction and clarity of perception of both institutional goals and individual goals within the institution.[50]

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[47]Odiorne, Op. cit.

[48]John R. Maher and Darrel T. Piersol, "Perceived Clarity of Individual Job Objectives and of Group Mission as Correlates of Organizational Morale," Journal of Communication 20:125-33, June, 1970. pp. 132-2.

[49]Odiorne, Op. cit. [50]Maher and Piersol, Op. cit., p. 133.

Odiorne further suggests that MBO is a way of getting improved results through managerial action. It is not an addition to the manager's job, but a way of doing it. MBO is based on observations of what successful executives do in many companies and organizations. It is especially appropriate for managing managers, but most applications have been limited to upper levels of management. It can extend down to first-line supervision if top management endorses and supports it by using it.[51]

MBO relates to several key problems in managing an organization: 1) what is expected - in terms of objectives; 2) obtaining teamwork - by identifying common goals; 3) programming work - by setting deadlines for tasks; 4) recognizing production - through mutual agreement on goals and assessment of accomplishments in relation to goals; 5) salary administration - allocation of salary increases on basis of identified competence; and 6) assessing promotability - by identifying potential for it. Odiorne refers to the discussion-negotiation process for establishing work standards as the dialog/memo technique. The advantages of MBO are in better results, lower costs, improved performance, more promotable people, improved quality of service, more businesslike management of salaries and development of the subordinate's best abilities.[52]

MBO provides a comprehensive management system applicable to a total organization. Alkin and Woolley, however, point out that the evaluator may need to use a different procedural model as well as appropriate techniques in order to achieve his performance standards established

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[51]Odiorne, Op. cit. [52]Odiorne, Op. cit.

under the MBO system.[53] It is, therefore, reasonable to assume that other program personnel may need to use specialized systems models and techniques, too. These specialized systems models and techniques are viewed as complementary to the total system, not competitive.

In summary, then, Lessinger's concept of educational engineering is a technique for managing change. Because adequate planning requires the development of programs stated in performance objectives, it is a natural extension of his concept to utilize these same performance objectives as a basis for managing managers through the MBO approach.

It is now possible to formulate a definition of accountability which is directly applicable to libraries. Library accountability is the reporting to appropriate and/or official designees by the responsible agent of results achieved in terms of fiscal accounting for funds expended to achieve those results on a least cost/most benefit basis. Library accountability is made possible by the process of library engineering or management. Library engineering is defined as a systematic planning process based on identified needs and stated in performance objectives, leading to systematic implementation, evaluation and modification, and facilitated by effective library management systems and techniques.

Example of the Use of a Specific Library Performance Objective

Through effective use of well-constructed performance objectives, library performance can be quantitatively measured. Such objectives provide, not only the basis for evaluating library effectiveness, but also the base for good management practices.

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[53] Alkin and Woolley, Op. cit., p. 9.

As cited earlier, Lessinger identifies four components of a performance objective: 1) the performer (student); 2) the performance; 3) the conditions for the performance; and 4) the standards or criteria for success. Lessinger also states that the performance must be observable or measurable. This implies a fifth component - method of measurement. Other educators believe that a rationale component is necessary. All of these components apply to library performance objectives without modification except for the first one. It is necessary to translate "students" into "users and/or potential users."

The table presented below gives a succinct definition and description of the elements contained in a well-constructed performance objective. Most authorities now agree that the essential components are numbers 2, 4, 5 and 6. In some cases it is not possible or necessary to include rationale and condition components.

Components of a Performance Objective

1.	Rationale - (Why?) In order to	achieve a certain objective
*2.	Performer - (Who?) The	user, nonuser, staff, organization
3.	Conditions - (Situation?) Given	support, constraints, direction
*4.	Performance - (Do what?) Will	perform observably or measurably
*5.	Criteria - (How much?) To the extent	percent, time, number, ratio, index
	(How well?) To the degree	percent, time, number, ratio, index
*6.	Measurement - (What method?) As evidenced by	data collection, observation, strategy, method

1. Why is the performance necessary?
2. Who will perform?
3. Under what conditions will performance be evaluated?
4. What will be done?
5. What is the minimal level - both quantity and quality - of acceptable performance?
6. How will we know we have achieved our objective?

In writing a performance objective, special attention should be given to the selection of the verb which is the key to stating observable outcomes. The verb should be a definite action word which indicates measurability. Vague verbs - such as be able to, be capable of, know, appreciate, understand, or be interested in - become measurable only if qualified by phrases such as "evidenced by" or "as demonstrated by." Examples of effective verbs include: increase, improve, expand, reduce, extend, demonstrate, share and cooperate.

Another area which can be troublesome initially is in defining the range of categories for stating conditions and criteria and in identifying comparable statements of measurability. The chart below provides further explanation of the choises available in writing these components.

Range of Conditions and Criteria
Appropriate in a Performance Objective Statement

Range	Example
Conditions:	
1. Kind of task	Cataloging 100 items
2. Competency level	Following standardized procedures as defined by ALA with less than 2% error
3. Tools, materials	Using tools appropriate to materials being cataloged as defined by professional standards.
4. Support	Paraprofessional help, adequate budget, appropriate tools and equipment for maximum efficiency

5.	Constraints	Budget and staff limitations, plant limitations, governmental requirements by law or regulation
Criteria:		
1.	Percent	Less than five errors per 100 items processed
2.	Time	Within 20 minutes
3.	Number	At least 150 items processed daily.
4.	Involvement	Participated voluntarily - Worked without supervision - Located materials without assistance
Performance:		
1.	Quantity	At least 75% of reference questions received each day will be processed on that same day.
2.	Quality	For each 100 reference questions answered, no more than five patrons will express dissatisfaction with the services provided.

One final bit of caution should be exercised in writing well-constructed performance objectives. The measurement component should be consistent with the performance component. For example, one does not teach students to describe bibliographical tools and then test them on their ability to use such tools. Another inconsistency that may occur is the statement of the performance objective in terms of the user followed by the statement of evaluation in terms of librarian or administrator assessment. For example: the user will express satisfaction with the library services provided as evidenced by the librarian's assessment of the quality of a service rendered.

For illustrative purposes the following library performance objective will be used as the basis for discussion for the remainder of this paper:

Rationale: To meet his perceived needs for library materials,

Performer: the user,

Condition: without undue persuasion,

Performance: will express his satisfaction with the materials provided.

Criteria: The user will indicate that the quantity of materials provided is at least adequate to his purposes and that the quality and relevance of materials provided is at least good.

Measurement: The user will answer a questionnaire using the three variables - quantity, quality, and relevance. Each variable will contain a scale ranging from a low rating of 1 to a high rating of 4. User satisfaction will be evidenced by a rating of 3.0 or higher based on an average taken on questions answered by the individual user.

The rationale and performance statements relate back to the library accountability goal of the guaranteed acquisition of information by all consumers based on their perceived needs and life goals. The performer in this example is the user. In other objectives the performer might be the nonuser. It should be reiterated here that a complete library plan is composed of many programs, each with its own set of objectives. Obviously, in terms of the accountability goal stated above, other programs should be developed to reach the unserved. The three variables were also chosen arbitrarily. Other factors might have been included or used in place of these three. Once again, the choice of measurement method is a value judgment as is the criterion of 3.0 average rating as evidence of achievement of the objective. Other methods could be substituted, and other success values could be selected depending upon the specific situation.

To collect the necessary data, a simple questionnaire could be used. In the following example, the top answer in each case is

equal to 4 points, the second - 3, the third - 2, and the fourth - 1. An average of questions answered can then be quantitatively derived to determine the individual user's degree of satisfaction or, in other words, evidence of achievement of the objective.

User's Questionnaire

Please help us evaluate our services to you! We need to know what things we are doing well and what things need to be improved. Check your answer to each of the following questions. Thank you for your assistance in helping us to serve you better.

1. The quantity or amount of materials provided was:

_____excellent
_____good
_____fair
_____poor

2. The quality of the materials was:

_____excellent
_____good
_____fair
_____poor

3. The available materials were related to my needs:

_____excellent
_____good
_____fair
_____poor

4. Comments:

The next step in the procedure is to determine how to get this instrument into the hands of the user. In small libraries with limited staff, duplicated copies of this questionnaire could be placed

on the circulation desk for distribution to each user. This would not be done on a daily basis. A schedule calling for, perhaps, two days per month might be developed, using different days of the week in rotation. This procedure would tend to provide for fluctuations in service loads from day to day and from month to month over the period of a year's time. At the end of each day when the survey is being conducted, it would be necessary for the library staff to compute an average score for each user and then to figure and record the percentage of satisfied customers served that day. Comments should be categorized and recorded. Frequently recurring statements can provide insight into problems which need investigation and solution.

The purist in the research field might argue that this method of data collection is not altogether valid. Such records kept over a period of time will, however, tend to reflect trends and commonalities. Such a relative index of user satisfaction is better than none at all.

Even larger libraries using a more sophisticated instrument and a scientific sampling method, could well use this procedure as an initial screening process. This would identify some of the problem areas which, in turn, would indicate the need for an indepth investigation and would possibly help to isolate variables considered important by the individual use

Larger libraries might use different techniques for collecting the data, such as actual observations of the users followed by a structured interview and possibly even the development of case studies. A congruence study to determine the amount of agreement between the users' answers and those of the library staff could provide new insights.

As more variables are added, the design becomes more complex and, therefore, more time consuming. At this point, the administrator might well consider contracting with an outside research center. Evaluative techniques which could be utilized by such an agency include simulation, reader satisfaction indexes and others requiring the use and/or formulation of complex mathematical models.

Let us now turn to the use of the performance objective in the MBO system. As observed earlier, MBO is a method for managing people in the performance of their duties. Performance objectives are established by mutual agreement (sometimes through a negotiated compromise) between the supervisor and his subordinate(s). These objectives must relate directly to the user's objective. It is important to understand the hierarchical interrelationship of performance objectives as these progress upward from the user's objective ultimately to the overall institutional goal. This hierarchical relationship is like a chain - if one step in the progression is weak or missing, then the program cannot function effectively. It is this hierarchical relationship which establishes responsibility at various staff levels for performance which contributes to the ultimate realization of institutional goals. Another way of expressing this idea is that the hierarchical arrangement of performance objectives establishes institutional and individual accountability. For example, if the patron wants to videotape a presentation, the public service librarian <u>cannot</u> be held accountable for failure to satisfy that user's needs if the library has not provided the necessary equipment. The following chart represents this relationship:

Hierarchy of Goals and Objectives

To accomplish Z Y must be done	Goal Program Objective (User-Oriented)
To accomplish Y X must be done	Organizational Objective
To accomplish X W must be done	Staff Objective
To accomplish W V must be done	Individual User's Objective

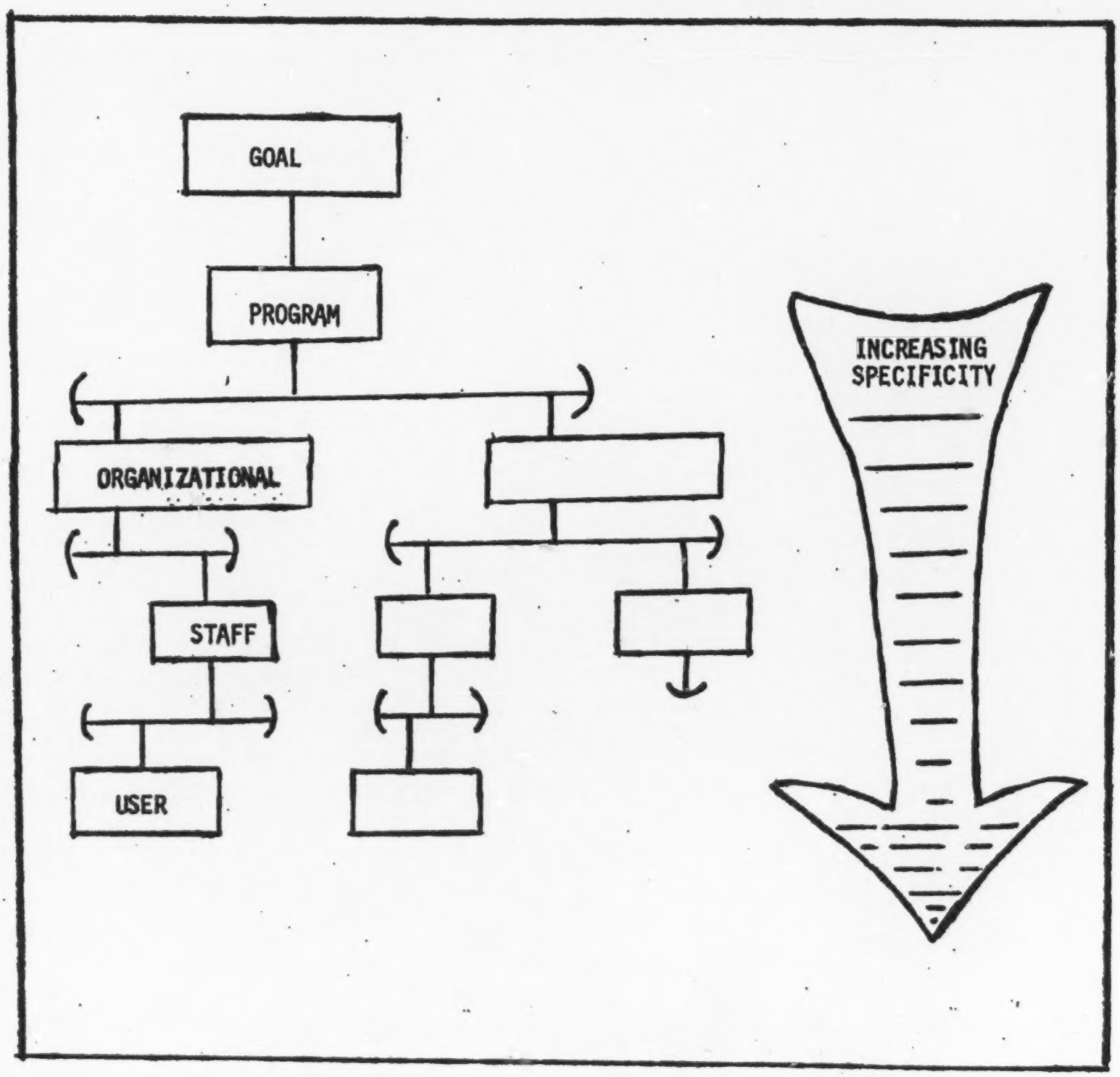
Another factor to be remembered is that the achievement of the institutional goal is dependent upon many program objectives. In the specific example used here, only one program objective is involved. We are, however, dealing with only one very specific user objective moving upward on the hierarchical ladder. (See Chart on Page 34).

If the user is to achieve his objective, then there must be a parallel staff objective. Just as in the development of the user objective, certain components are chosen arbitrarily. Others could be substituted depending upon the specific situation. The corresponding staff objective in this illustration could be stated as follows:

> To help users meet their needs for library materials, the public service librarian, given adequate inservice training and supervision, will demonstrate ability to satisfy the users' needs for materials. Achievement of this objective shall be evidenced by a rate of at least 85 satisfied patrons out of every 100 served. (Satisfaction is defined in the user objective).

This staff objective specifies, by job title, who is responsible for what tasks and what competency level is expected. So long as the reader satisfaction rate remains at 85% or higher, the supervisor need not concern himself. Only when the rate drops below 85% should he investigate the situation. This is called the management-by-exception

HIERARCHY OF OBJECTIVES FOR A SINGLE LIBRARY PROGRAM



principle. When the rate drops below the established minimum acceptable, then the supervisor can effectively use Odiorne's coaching technique to identify causes and develop mutually agreeable solutions.

By the same token, if the librarian is to achieve his objective, then there must be a corresponding organizational objective. The supervisor assumes this responsibility and writes his own performance objectives in a democratic decision-making environment. For this specific situation, the organizational objective might be stated thus:

> To enable the Public Service librarian to serve users effectively, the supervisor of the Public Services Section, given adequate resources and instruction in MBO procedures, will provide effective inservice training to the extent that each Public Service librarian receives at least one two-hour training session every six months. Achievement will be evidenced by the need for no more than three coaching sessions per staff member per year as recorded on standardized individual coaching session records.

This objective states what the supervisor must do in order for his staff to function effectively. It also provides the basis for the supervisor's report of progress made toward achieving program objectives of the library. If the supervisor does not provide effective inservice training, then he cannot hold his staff accountable for failure to satisfy user's needs. He can, however, be held accountable by his superior for failure to do his job - in this instance, provide inservice training. Once again, the management-by-exception principle is operational. So long as the supervisor is doing his job well, the chief administrator does not need to concern himself with the details and can utilize his coaching time with other supervisors where progress reports prove to be less than satisfactory.

The organizational objective should relate directly to one of

the library's program objectives. For this specific situation, the following is an example of a program objective:

> Within three years an increase of at least 15% in the number of patrons being served will be attained and will be served to the extent that 85 out of every 100 patrons expresses satisfaction as measured by individual responses to the User's Questionnaire. The 15% increase will be evidenced by the increased number of User's Questionnaires returned and in correspondingly increased registration, circulation and traffic counts.

The program objective is obviously much broader than the examples of user, staff and organizational objectives presented thus far. For the first time in this illustration we see the introduction of the nonuser. A three-year increase of 5% new users (formerly nonusers) must be achieved. A parallel set of managerial objectives would need to be developed to accomplish this program objective. The achievement of the program objectives is the ultimate responsibility of the library's chief administrator who holds his staff accountable for achieving their individual and unit objectives. When progress made toward achieving program objectives is compiled, then the chief administrator can readily assess the effectiveness of his organization toward meeting his library's ultimate goals.

Just as each of the preceding objectives has been related on a hierarchical basis, so too, the program objectives must relate to an overall general goal. For this specific situation, the goal might be stated as follows: To improve and expand library services.

While it is true in good management that purpose and goals come from the top down and methodology from the bottom up, the wise administrator involves his staff in the process. Goals and program objectives should be cooperatively derived and mutually agreed upon

by the chief administrator and his decision-making staff or section heads. Then these people return to their sections to involve their own staffs in working out the section activities and staff objectives necessary to achieve the program objectives and library goals.

Figure 5 on page 38 is a library accountability systems model which identifies the procedural components for development of effective library programs and shows the relationship of the management function to each of these components. This model is a theoretical and universal one. Gordon states in his article that such a model is applicable to any enterprise because inputs, outputs, and their relationships can be varied; the semantics can be altered for different enterprises; the organizational boundaries may encompass all, more, or less than the theoretical components; and the real interaction cannot be pictured in a two-dimensional diagram.[54] Johnson states that the specifics vary in different situations, but that these can be fitted into a model.[55] One further use of such a systems model is that it can be used as a basis for the development of an organizational chart so that organizational structure is parallel to organizational operation.

Figure 5 shows in the lefthand column the four major operational components and their relationships. The righthand column indicates how performance objectives are framed for each component so

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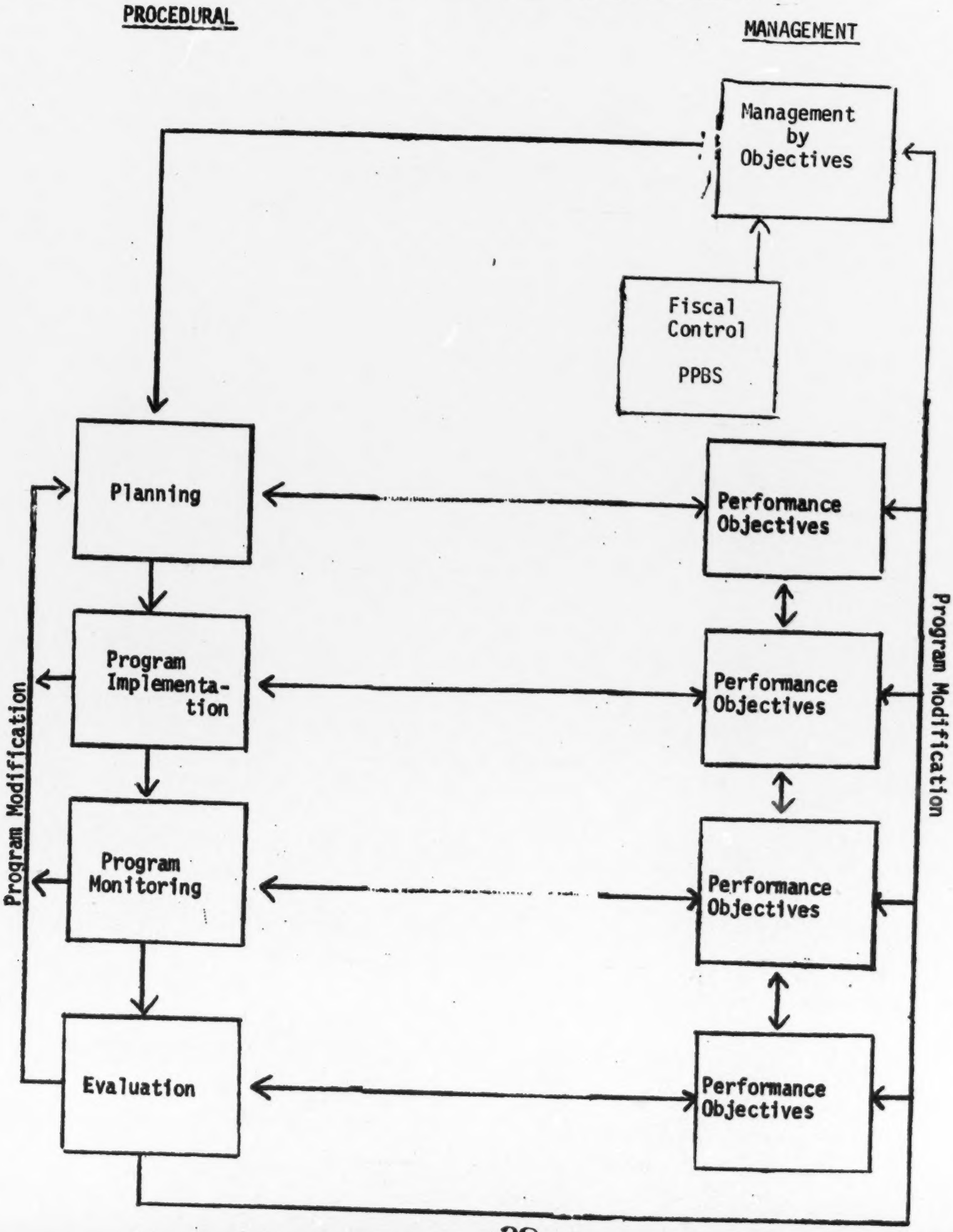
[54]Gordon, Op. cit., p. 681.

[55]Mauritz Johnson. Program Evaluators Handbook: Determining Objectives. Training and Review Series in Title III ESEA. (Albany: University of the State of New York, the State Education Department, 1970) p.2.

Figure 5.

General Library Accountability Systems Model



that its activities and results contribute to the realization of the organizational goals.

Conclusion

Library accountability is a challenge which must be faced if libraries are to continue to receive public support. With effective planning and management, it is now possible to measure some aspects of library performance in terms of direct benefit as perceived by the individual user. As more progress is made through research in developing new procedures, more effective measures of direct benefit will become available.

A great deal of work lies before us as professional librarians. We must not allow ourselves to rationalize that the job is impossible due to lack of manpower, knowledge and skills. It is better to make a small beginning, doing the best job possible. With experience, study, research and time, the caliber of our plans and the effectiveness of our management practices will improve.

In a world of constant change, we must learn to manage change. What other course of action can we take if libraries are to survive and grow into the dynamic information centers needed in tomorrow's world.

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